

### **Amendments to the Specification:**

On page 1, please replace the paragraph beginning at line 5 with the following amended paragraph:

--This application is a continuation of application Ser. No. 09/783,756, filed Feb. 13, 2001 (now Pat. No. 6,373,043), which is a continuation of application Ser. No. 09/507,877, filed Feb. 22, 2000 (now Pat. No. 6,225,619), which is a division of application Ser. No. 09/021,853, filed Feb. 11, 1998 (now Pat. No. 6,028,300), which claims benefit of application Ser. No. 60/037,541, filed Feb. 11, 1997. Application Ser. No. 09/021,853 ~~09/507,877~~ is also a continuation-in-part of application Ser. No. 08/875,505, filed Jul. 29, 1997, which is the U.S. nationalization of international application PCT/US95/01,201, filed Jan. 30, 1995. Application Ser. No. 08/875,505 is also a continuation of application Ser. No. 08/171,661, filed Dec. 20, 1993 (now Pat. No. 5,448,053), which is a continuation-in-part of application Ser. No. 08/024,738, filed Mar. 1, 1993 (now Pat. No. 5,412,200). All of the aforesaid issued patents are incorporated herein by reference. Priority is claimed ~~to these prior applications~~ under 35 USC Sections 119 and 120 ~~to application Nos. 09/783,756; 09/507,877; 09/021,853; 06/037,541; and 08/875,505 and the issued patents are incorporated herein by reference.~~ --

On page 1, please replace the heading on line 21 with the following amended heading:

--Background and Summary of the Invention--

On page 1, please delete the paragraph beginning at line 22, which starts with "In accordance with."

On page 2, please delete the paragraph beginning at line 1, which starts with "Using intensity interferometry."

On page 3, please delete the paragraph beginning at line 3, which starts with "We presently believe."

On page 5, please replace the paragraph beginning at line 3 with the following amended paragraph:

--(The movement of an antenna in a space VLBI array, together with the changing path length of the space-to-ground data link, complicates the array's operation. In particular, signals from the moving antenna must be temporally correlated with those from the ground telescopes before they can be combined to generate the interferometric data. However, such problems can be redressed by known techniques described in the literature. ~~To facilitate description of the present invention, an array of fixed photon collectors is described—it being understood that technique borrowed from this space radiotelescope prior art can be used to compensate for the dynamic effects introduced by placing one or more optical sensors into space.~~)--

On page 6, please insert the following heading at the top of the page, before the paragraph beginning with the words “In contrast”:

--Summary of the Invention--

On page 6, please add the following two paragraphs immediately after the paragraph which begins on line 8, which starts with “By eliminating the”:

--In accordance with one aspect of the present invention, an astronomical imaging array is formed of several widely spaced photon collectors (e.g. photodiodes). Each collector has associated with it a digitizing sampler that collects a stream of sample data from the photodiode in response to a trigger signal provided by a time source. Samplers at different photon collectors are triggered at different instants in accordance with their spacing, and their relative optical path differences from the object being imaged. In particular, each sampler is triggered to collect a record of samples when a given phase front of light from the object being imaged is expected to pass the photon collector.--

--Using intensity interferometry techniques, the sampled data from each photon collector is correlated with data from other collectors, yielding a waveform whose individual values represent a brightness line integral through the object. Using different photon collector pairs,

different sets of brightness line integrals through the object are produced. Matrix algebra is then employed to synthesize the collected set of line integrals into a two dimensional image representing the brightness of the object being imaged.--

On page 6, please replace the paragraph beginning at line 12 with the following amended paragraph:

--Also disclosed in the following specification, and sharing the attribute of plural spaced detectors, is a more traditional optical imaging system (i.e. no interferometry). This system employs techniques described in the above-cited patents to characterize/model[[,]] atmospheric turbulence through which a telescope is seeing.--

On page 6, please add the following paragraph immediately after the paragraph which begins on line 16, which starts with "In accordance with":

--We also presently believe that intensity interferometry techniques can be used with arbitrarily positioned detectors, including arbitrary three dimensional arrangements (e.g. one or more in space). To facilitate description of the present invention, an array of fixed photon collectors is described--it being understood that techniques borrowed from VLBI space radiotelescope prior art can be used to compensate for the dynamic effects introduced by placing one or more optical sensors into space.--

On page 15, please replace the paragraph beginning at line 24 with the following amended paragraph:

--Having described the principles of [[myr]] my invention with reference to preferred embodiments and several variations thereof, it should be apparent that the embodiments can be modified in arrangement and detail without departing from such principles. Accordingly, I claim as my invention all such modifications as may come within the scope and spirit of the following claims, and equivalents thereto.--